



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,051	01/28/2004	Malte Kumkar	15540-020US1 / 25 216 RK/	9616
26171	7590	08/27/2007	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			VAN ROY, TOD THOMAS	
		ART UNIT	PAPER NUMBER	
		2828		
		MAIL DATE	DELIVERY MODE	
		08/27/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/765,051	KUMKAR ET AL.	
	Examiner Tod T. Van Roy	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 July 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,4,8,9,11-15 is/are rejected.
- 7) Claim(s) 3-5 and 10 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/25/2007 has been entered.

Response to Amendment

The Examiner acknowledges the amending of claim 1.

Response to Arguments

Applicant's arguments, see Remarks, filed 07/25/2007, with respect to the rejection(s) of claim(s) 1 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Taniu.

The Examiner agrees that Ireland does not teach the spaced apart reflector to diffusely scatter and spatially homogenize light.

Allowable Subject Matter

The indicated allowability of claims 2 and 4 is withdrawn in view of the newly discovered reference(s) to Taniu. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 4 and 13-15 are rejected under 35 U.S.C. 103(a) as being anticipated by Tidwell (WO 93/23899, applicant submitted art) in view of Taniu et al. (US 5373527).

With respect to claims 1, 2 and 4, Tidwell teaches an apparatus for optically pumping a laser-active solid body with pumping light coupled into the solid body through only an end surface of the solid body (fig. 1), the apparatus comprising: a laser-active solid body (fig. 1 #4) including an end surface through which pumping light is coupled into the solid body (fig. 1 #4 left side) and a lateral surface through which pumping light reflects from the solid body (fig. 1 #4, top and bottom lateral surfaces to coating); a reflector surrounding the laser-active solid body at a distance from the lateral surface of the solid body for reflecting light that exists the solid body back towards the solid body

(pg.5 lines 1-14, coating), and that the surface is diffusive. Tidwell does not teach a reflector to be spaced from the solid body to form an annular gap. Taniu teaches a pumped solid state medium wherein a reflective surface (smooth, mirror like, fig.2) is spaced from the solid state body (fig.1) forming a gap. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the solid state medium of Tidwell with the spaced apart reflective surface of Taniu in order to allow for any escaped pumping light to be returned to the gain medium (see Remarks, 07/25/2007, pg.6 para.1, wherein the Applicant admits Tidwell's side surface does allow some light to escape).

With respect to claims 13-15, Tidwell and Taniu teach the apparatus including all of the limitations in claim 1, but do not teach the amount of light which is diffused. It would have been obvious to one of ordinary skill in the art at the time of the invention to choose the amount of diffused light to be 3, 20, or 40 percent as it has been found to be not inventive to discover the optimum, or working, range by routine experimentation (see MPEP 2144.05 II A - In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)).

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tidwell in view of Taniu and Honea et al. (US 2002/0118718).

With respect to claim 8, Tidwell and Taniu teach the apparatus as described in the rejection to claim 1, including a medium disposed on the outside of the lateral surface (Tidwell, pg.4 lines 28-30), but do not teach the medium to be of a higher

refractive index. Honea teaches a solid state pumping apparatus that uses a medium of high refractive index ([0006]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Tidwell and Taniu with the index difference of Honea in order to suppress parasitic oscillations in the active media (Honea, [0006]).

With respect to claim 9, Tidwell, Taniu and Honea teach the apparatus as outlined in the rejection to claim 8, and Tidwell further teaches the medium to be disposed in the form of a layer on the lateral surface (fig.1).

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tidwell in view of Taniu and Ireland (US 5048044).

With respect to claims 11-12, Tidwell and Taniu teach the device outlined in the rejection to claim 1, but do not teach the gap to be used for allowing cooling via water passage. Ireland teaches a spaced apart reflector (fig.13) and teaches the gap to be used for water cooling (Ireland, col.6 lines 56-60, col.4 lines 35-37). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system of Tidwell and Taniu with the cooling of Ireland in order to lower the temperature of the gain medium and prevent problems with focusing due to temperature induced refractive index variations.

Allowable Subject Matter

Claims 3, 5-7, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 3, 5 and 10 are believed to be allowable as the prior art failed to teach the separated reflector to be of the diffusive type.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR

